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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,671	10/10/2006	Takumi Yamaguchi	067471-0102	9210

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MCDERMOTT WILL & EMERY LLP  
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WASHINGTON, DC 20005-3096

EXAMINER
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AGGARWAL, YOGESH K

ART UNIT	PAPER NUMBER
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2622

MAIL DATE	DELIVERY MODE
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11/26/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/566,671	<b>Applicant(s)</b> YAMAGUCHI ET AL.	
	<b>Examiner</b> YOGESH K. AGGARWAL	<b>Art Unit</b> 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (US Patent # 6,995,800) in view of Augusto (WO 00/77566A1).

[Claims 1, 7, 8]

Takahashi teaches a solid-state imaging device (figures 7a and 7b) comprising a plurality of light-receiving units (photodiode 5) two-dimensionally arrayed in a semiconductor substrate (figure 4a); a filter unit (6) operable to transmit incident light of selected wavelengths to the plurality of light receiving units (col. 4 lines 19-34); and a light shielding unit (8) operable to shield incident light, the light shielding unit having a plurality of apertures (See figure 7a), each aperture opposing a corresponding light receiving unit (5), wherein on a path of incident light from the light shielding unit (8) to the plurality of light shielding light-receiving units (5), the filter unit is disposed between the light shielding unit and the plurality of light-receiving units (See figure 7a and col. 5 lines 40-54). Takahashi fails to teach that the filter unit is composed of an inorganic material. However Augusto teaches a filter unit used in cameras e.g. that is made of silica (Page 5, lines 15-23) which is very well known to be an inorganic material. Therefore taking the combined teachings of Takahashi and Augusto, it would be obvious to one skilled in the art at the time of the invention to have been motivated to have a filter unit used in cameras e.g. that is made of silica (Page 5, lines 15-23) which is very well known to be an inorganic

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material in order to have an arbitrary choice of optical path length (film thickness and refraction index) rather than employing different materials for each different color (Page 4, line 13).

[Claim 2]

Takahashi teaches a condensing unit (microlens 4) operable to condense incident light on the corresponding light- receiving unit disposed in each of the plurality of apertures in the shielding unit (See figure 7a).

[Claim 3]

Augusto teaches wherein the filter unit is composed of an inorganic material (Page 5 lines 15-23). Takahashi teaches that the except for at the plurality of apertures (col. 6 lines 64-65), the light shielding unit (8) reflects the incident light (col. 5 lines 40-54).

[Claim 4]

Augusto teaches wherein the filter unit has a multilayer film structure (Page 5, lines 6+)

[Claim 5]

Augusto teaches wherein the filter unit is composed of photonic crystal (Page 5, line 1).

[Claim 6]

Takahashi teaches a solid-state imaging device (figures 7a and 7b) comprising a plurality of light-receiving units (photodiode 5) two-dimensionally arrayed in a semiconductor substrate (figure 4a); a filter unit (6) operable to transmit incident light of selected wavelengths to the plurality of light receiving units (col. 4 lines 19-34). Takahashi fails to teach wherein the filter unit is composed of photonic crystal having a microstructure of alternately layered materials that differ in refractive index and/or permittivity, a thickness of any given two contacting layers in the microstructure being of the order of a wavelength of light. However Augusto teaches the

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filter unit is composed of photonic crystal having a microstructure of alternately layered materials that differ in refractive index and/or permittivity, a thickness of any given two contacting layers in the microstructure being of the order of a wavelength of light (Page 5).

Therefore taking the combined teachings of Takahashi and Augusto, it would be obvious to one skilled in the art at the time of the invention to have been motivated to have filter unit is composed of photonic crystal having a microstructure of alternately layered materials that differ in refractive index and/or permittivity, a thickness of any given two contacting layers in the microstructure being of the order of a wavelength of light (Page 5) in order to have an arbitrary choice of optical path length (film thickness and refraction index) rather than employing different materials for each different color (Page 4, line 13).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOGESH K. AGGARWAL whose telephone number is (571)272-7360. The examiner can normally be reached on M-F 9:00AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571)-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yogesh K Aggarwal/  
Primary Examiner, Art Unit 2622